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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,422	10/15/2003	Hiroyuki Aburatani	113991	3928

25944 7590 03/24/2006

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EXAMINER
MARTINELL, JAMES

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/684,422	**Applicant(s)** ABURATANI ET AL.
	Examiner James Martinell	**Art Unit** 1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 23 January 2006.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-58 is/are pending in the application.

4a) Of the above claim(s) 8-14,16,17,19,20 and 22-58 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7,15,18 and 21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 15 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	6) ☐ Other: _____.

Applicant's election with traverse of the requirement for restriction in the reply filed on January 23, 2006 is acknowledged. The traversal is on the ground(s) that the inventions of Groups I and II are related as combination and subcombination. This is not found persuasive because Group II is not drawn to a combination as is asserted by applicants (response filed January 23, 2006, page 1). Group II is in fact drawn to a large number of combinations (there are no fewer than 1.944×10^{356} combinations of nucleic acids in claim 8). Applicants did not elect a single combination as was required in the Office action mailed November 23, 2005, paragraph bridging pages 2-3.

The requirement is still deemed proper and is therefore made FINAL.

Claims 8-14, 16, 17, 19, 20, and 22-58 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 23, 2006.

Claim 1 objected to because of the following informalities: The recitation "human housekeeping expressed" should be changed to "human housekeeping gene expressed". Appropriate correction is required.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 15, 18, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague, indefinite, incomplete, inaccurate, and misdescriptive.

(a) The recitation of "gene" (claims 1-3, 6, 18, and 21) is vague and indefinite because the instant application does not define what is meant by the term and there is no art-recognized definition of the term. The metes and bounds of the claims are not clear.

(b) The recitation of "over 35 different human tissues" (claim 1) is vague, indefinite, inaccurate, and misdescriptive because the instant application does not disclose this large number of tissues. The following was taken from http://www.loyno.edu/~chood/histnotesepith.html on March 17, 2006 and is evidence that there are only 4 tissue types.

> **Part II: The 4 Basic Tissue Types**
>
> **Epithelial Cells & Tissues**
>
> *OBJECTIVES*
>
> This chapter should help the student to:
>
> · Know the structural and functional characteristics that distinguish epithelial tissues from the 3 other basic tissue types.
> · Know the types of epithelial tissues and give examples of body sites where each may be found.
> · Know the functional capabilities of each epithelial tissue type and relate them to tissue structure.
> · Describe the specialized functions of the various epithelial cell types and give examples of body sites where each may be found.
> · Recognize the various epithelial types in photomicrographs or slides and predict their function from their structure.
> · Know the criteria used to classify glands.
> · Know the names of the types of glands commonly found in humans and give examples of body sites where each may be found.
> · Recognize glands in photomicrographs or diagrams and identify the gland type.
>
> *SYNOPSIS*
>
> *I. THE 4 BASIC TISSUE TYPES*
>
> A tissue is a complex assemblage of cells and cell products having a common function. The many body tissues are grouped according to their cells and cell products into 4 basic types: **epithelial**, **connective**, **muscular**, and **nervous** tissues.

(c) The recitation of "genes" (claim 1) is vague and indefinite because the instant application does not define what is meant by the term and there is no art-recognized definition of the term. The metes and bounds of the claims are not clear.

(d) Claim 1 is vague and indefinite because it claims more than was elected (*e.g.*, "genes Nos. 1 to 1189 on Figs. 1 to 39").

(e) Claims 1, 2, 18, and 21 are incomplete because they refer to one or more Figures which in turn refer to GenBank® Accession Nos. The reference to GenBank® Accession Nos. in a claim is an improper incorporation by reference (see MPEP 608.01(p)I).

(f) Claim 2 is vague and indefinite because it claims more than was elected (*e.g.*, "genes Nos. 1 to 200 on Figs. 1 to 7").

(g) The recitation of "transcription product" (claims 3, 4, 5, 7, and 15) is vague and indefinite because the nature of the transcription product is not mentioned.

(h) The recitation of "transcription product . . . which is . . . cDNA" (claim 4) is misdescriptive and inaccurate because cDNA is not a transcription product.

(i) The recitation of "transcription product . . . wherein the cDNA" is misdescriptive and inaccurate because cDNA is not a transcription product.

(j) Claims 5, 7, and 15 are vague and indefinite because they claim more than was elected.

(k) The recitation of "transcription product is a cDNA" (claims 7 and 15) is vague and indefinite because cDNA is not a transcription product.

(l) Claim 15 is incomplete because it depends from non-elected claims 8 and 14.

(m) The recitation of "amygdaloid body-specific gene" (claim 18) is vague and indefinite because the instant application does not define such genes.

(n) Claims 18 and 21 are vague and indefinite because they are drawn to non-elected inventions.

(o) The recitation of "hippocampus-specific gene" (claim 18) is vague and indefinite because the instant application does not define such genes.

Claims 1-7, 15, 18, and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In *Vas-Cath v Mahurkar*, 19 USPQ2d 1111 (Fed. Cir. 1991) the court stated, "applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*' (emphasis in the original) (*Vas-Cath* at page 1117). The instant application does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is now claimed" (*Vas-Cath* at page 1116). In *Fiers v. Sugano*, 25 USPQ2d 1601 (Fed. Cir. 1993), the court also held that, "An adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference a potential method for isolating it; what is required is a description of the DNA itself" (*Fiers v. Sugano*, page 1606). This view was reiterated in *Fiddes v. Baird*, USPQ2d 1481 (BPAI 1993) at page 1483, "If a conception of a DNA requires a specific definition, such as by structure, formula, chemical name, or physical properties, as we have held, then a description also requires that degree of specificity. . . . one cannot describe what one has not conceived." The court amplified this notion with respect to inventions claiming genetic material in *Regents of the University of California v. Eli Lilly*, 43 USPQ2d 1398 (Fed. Cir. 1997), stating at page 1406,

> "In claims to genetic material, however, a generic statement such as 'vertebrate insulin cDNA' or mammalian insulin cDNA,' without more, is not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the

> genus. . . . Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material."

The use of such terms as "gene", "genes", and "cDNA" in the claims lack an adequate written description for reasons given above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GenBank® Accession No. AB009010. The following GenBank® record is evidence that the claimed gene was disclosed on July 26, 2001. See the alignment of SEQ ID NO: 1 and GenBank® Accession No. AB00910 below. Since applicants consider cDNA to be a transcription product, claims 3-5 are also embraced by GenBank® Accession No. AB009010.

GenBank® Accession No. AB009010

```
LOCUS       AB009010                2192 bp    mRNA    linear   PRI 26-JUL-2001
DEFINITION  Homo sapiens mRNA for polyubiquitin UbC, complete cds.
ACCESSION   AB009010
VERSION     AB009010.1  GI:2647407
KEYWORDS    polyubiquitin UbC.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
            Hominidae; Homo.
REFERENCE   1
  AUTHORS   Kim,N., Yamaguchi,T., Sekine,S., Saeki,M., Iwamuro,S. and Kato,S.
  TITLE     Cloning of human polyubiquitin cDNAs and a ubiquitin-binding assay
            involving its in vitro translation product
  JOURNAL   J. Biochem. 125, 35-39 (1998)
REFERENCE   2  (bases 1 to 2192)
  AUTHORS   Kato,S.
  TITLE     Direct Submission
  JOURNAL   Submitted (20-NOV-1997) Seishi Kato, Research Institute of National
            Rehabilitation Center for the Disabled, Department of
            Rehabilitation Engineering; 4-1 Namiki, Tokorozawa, Saitama
            359-8555, Japan (E-mail:seishi@rehab.go.jp,
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Alignment of SEQ ID NO: 1 and GenBank® Accession No. AB00910

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VERSION     AB009010.1  GI:2647407
KEYWORDS    polyubiquitin UbC.
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  AUTHORS   Kim,N., Yamaguchi,T., Sekine,S., Saeki,M., Iwamuro,S. and Kato,S.
  TITLE     Cloning of human polyubiquitin cDNAs and a ubiquitin-binding assay
            involving its in vitro translation product
  JOURNAL   J. Biochem. 125, 35-39 (1998)
REFERENCE   2  (bases 1 to 2192)
  AUTHORS   Kato,S.
  TITLE     Direct Submission
  JOURNAL   Submitted (20-NOV-1997) Seishi Kato, Research Institute of National
            Rehabilitation Center for the Disabled, Department of
            Rehabilitation Engineering; 4-1 Namiki, Tokorozawa, Saitama
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Qy        121 AGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGATCCAAGATAAGGAAGGCATCCCTC 180
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Db        121 AGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGATCCAAGATAAGGAAGGCATCCCTC 180

Qy        181 CTGACCAGCAGAGGCTGATCTTTGCTGGAAAACAGCTGGAAGATGGGCGCACCCTGTCTG 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CTGACCAGCAGAGGCTGATCTTTGCTGGAAAACAGCTGGAAGATGGGCGCACCCTGTCTG 240

Qy        241 ACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGC 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 ACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGC 300

Qy        301 AAATCTTCGTGAAGACACTCACTGGCAAGACCATCACCCTTGAGGTGGAGCCCAGTGACA 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 AAATCTTCGTGAAGACACTCACTGGCAAGACCATCACCCTTGAGGTGGAGCCCAGTGACA 360

Qy        361 CCATCGAGAACGTCAAAGCAAAGATCCAGGACAAGGAAGGCATTCCTCCTGACCAGCAGA 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 CCATCGAGAACGTCAAAGCAAAGATCCAGGACAAGGAAGGCATTCCTCCTGACCAGCAGA 420

Qy        421 GGTTGATCTTTGCCGGAAAGCAGCTGGAAGATGGGCGCACCCTGTCTGACTACAACATCC 480
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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           421 GGTTGATCTTTGCCGGAAAGCAGCTGGAAGATGGGCGCACCCTGTCTGACTACAACATCC 480

Qy           481 AGAAAGAGTCTACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGA 540
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           481 AGAAAGAGTCTACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGA 540

Qy           541 AGACCCTGACTGGTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAGAATG 600
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           541 AGACCCTGACTGGTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAGAATG 600

Qy           601 TCAAGGCAAAGATCCAAGATAAGGAAGGCATTCCTCCTGATCAGCAGAGGTTGATCTTTG 660
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           601 TCAAGGCAAAGATCCAAGATAAGGAAGGCATTCCTCCTGATCAGCAGAGGTTGATCTTTG 660

Qy           661 CCGGAAAACAGCTGGAAGATGGTCGTACCCTGTCTGACTACAACATCCAGAAAGAGTCCA 720
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           661 CCGGAAAACAGCTGGAAGATGGTCGTACCCTGTCTGACTACAACATCCAGAAAGAGTCCA 720

Qy           721 CCTTGCACCTGGTACTCCGTCTCAGAGGTGGGATGCAAATCTTCGTGAAGACACTCACTG 780
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           721 CCTTGCACCTGGTACTCCGTCTCAGAGGTGGGATGCAAATCTTCGTGAAGACACTCACTG 780

Qy           781 GCAAGACCATCACCCTTGAGGTCGAGCCCAGTGACACTATCGAGAACGTCAAAGCAAAGA 840
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           781 GCAAGACCATCACCCTTGAGGTCGAGCCCAGTGACACTATCGAGAACGTCAAAGCAAAGA 840

Qy           841 TCCAAGACAAGGAAGGCATTCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAGCAGC 900
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           841 TCCAAGACAAGGAAGGCATTCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAGCAGC 900

Qy           901 TGGAAGATGGGCGCACCCTGTCTGACTACAACATCCAGAAAGAGTCTACCCTGCACCTGG 960
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           901 TGGAAGATGGGCGCACCCTGTCTGACTACAACATCCAGAAAGAGTCTACCCTGCACCTGG 960

Qy           961 TGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCA 1020
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           961 TGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCA 1020

Qy          1021 CCCTCGAAGTGGAGCCGAGTGACACCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGG 1080
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1021 CCCTCGAAGTGGAGCCGAGTGACACCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGG 1080

Qy          1081 AAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAACAGCTGGAAGATGGTC 1140
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1081 AAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAACAGCTGGAAGATGGTC 1140

Qy          1141 GTACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCTTGCACCTGGTGCTCCGTCTCA 1200
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1141 GTACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCTTGCACCTGGTGCTCCGTCTCA 1200

Qy          1201 GAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAGGTGG 1260
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1201 GAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAGGTGG 1260

Qy          1261 AGCCGAGTGACACCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTC 1320
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1261 AGCCGAGTGACACCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTC 1320

Qy          1321 CTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTG 1380
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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1321 CTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTG 1380

Qy          1381 ACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGGATGC 1440
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1381 ACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGGATGC 1440

Qy          1441 AGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACA 1500
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1441 AGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACA 1500

Qy          1501 CCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGA 1560
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1501 CCATTGAGAATGTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGA 1560

Qy          1561 GGTTGATCTTTGCTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTGACTACAACATCC 1620
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1561 GGTTGATCTTTGCTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTGACTACAACATCC 1620

Qy          1621 AGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGGATGCAGATCTTCGTGA 1680
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1621 AGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGGATGCAGATCTTCGTGA 1680

Qy          1681 AGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACACCATTGAGAATG 1740
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1681 AGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACACCATTGAGAATG 1740

Qy          1741 TCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTG 1800
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1741 TCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTG 1800

Qy          1801 CTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCA 1860
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1801 CTGGGAAACAGCTGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCA 1860

Qy          1861 CCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTG 1920
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1861 CCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTGAAGACCCTGACTG 1920

Qy          1921 GTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGA 1980
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1921 GTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGA 1980

Qy          1981 TCCAAGATAAGGAAGGCATCCCTCCTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAGC 2040
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1981 TCCAAGATAAGGAAGGCATCCCTCCTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAGC 2040

Qy          2041 TGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACTCTGCACTTGG 2100
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2041 TGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACTCTGCACTTGG 2100

Qy          2101 TCCTGCGCTTGAGGGGGGGTGTCTAAGTTTCCCCTTTTAAGGTTTCAACAAATTTCATTG 2160
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2101 TCCTGCGCTTGAGGGGGGGTGTCTAAGTTTCCCCTTTTAAGGTTTCAACAAATTTCATTG 2160

Qy          2161 CACTTTCCTTTCAATAAAGTTGTTGCATTCCC 2192
                 ||||||||||||||||||||||||||||||||
Db          2161 CACTTTCCTTTCAATAAAGTTGTTGCATTCCC 2192
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Claims 6, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of GenBank® Accession No. AB009010 or Kim et al (J. Biochem. 124, 35 (1998)) in view of Wallace et al (Methods Enzymol. 152: 432 (1987)). The GenBank® record above is evidence that the claimed gene was disclosed on July 26, 2001. Kim et al discloses a DNA that is the same as SEQ ID NO: 1 of the instant application except for the substitution of "A" at position 2114 for "G". Wallace et al teaches the construction and use of oligonucleotide probes for the detection of nucleic acids. It would have been obvious for one of ordinary skill in the art at the time the invention was made to make probes in the manner of Wallace et al that are complementary to portions of the nucleic acids disclosed in either one of the primary references in order to detect the nucleic acid of either reference in a sample.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over GenBank® Accession No. AB009010 in view of Kim et al (J. Biochem. 124, 35 (1998)). This rejection is applied for a narrow construction of the instant claims to not include cDNA as a transcription product. The GenBank® record above is evidence that the claimed gene was disclosed on July 26, 2001. Kim et al discloses a DNA that is the same as SEQ ID NO: 1 of the instant application except for the substitution of "A" at position 2114 for "G". Kim et al also teaches the transcription and translation of the cDNA that encodes the same polypeptide as SEQ ID NO: 1 of the instant application (see Figure 1 of Kim et al and page 36, column 1 describing a coupled in vitro translation system). It would have been obvious for one of ordinary skill in the art at the time the invention was made to transcribe the DNA of GenBank® Accession No. AB009010 in the manner of Kim et al to create a transcription product for the same reasons as given in Kim et al (*i.e.*, to determine the polypeptide encoded by the DNA).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (571) 272-0719.

The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be e-mailed to james.martinell@uspto.gov. Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571) 272-0735.

OFFICIAL FAX NUMBER

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any Official Communication to the USPTO should be faxed to this number.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

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Primary Examiner
Art Unit 1634
3/17/06